

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in this application.

Listing of Claims:

1-7. (Canceled)

8. (Currently Amended) A camera comprising: an objective lens where an imaging light enters; image pickup means having a photosensitive surface that receives the imaging light directed after being passed through said objective lens to form an image, the photosensitive surface having different kinds of elements arranged in an array that are for generating predetermined signals in response to imaging light in different wavelengths; and image processing means for generating image data that are used to produce, on a predetermined display, an image taken by said image pickup means according to received said signal to send them to the outside,

said objective lens being adapted to receive imaging lights from each of a plurality of subject surface segments located at different depths from said photosensitive surface and form an image on said photosensitive surface using chromatic aberration, while said photosensitive surface is positioned at a fixed distance with respect to a sample that produces the imaging light stationary, each of the imaging lights having a wavelength identical to one of said different wavelengths and being different from each other,

said image processing means being adapted to generate, according to said predetermined signals signal-generated by said different kinds of elements, said image data with which achromatic images can be produced on the a-predetermined display.

9. (Currently Amended) A camera comprising: an objective lens where an imaging light enters; and image pickup means that receives the imaging light directed after being passed through said objective lens to form an image, the image pickup means having a photosensitive surface, the photosensitive surface having different kinds of elements arranged in an array that are for generating predetermined signals in response to imaging light in different wavelengths, said objective lens being adapted to receive imaging lights from each of a plurality of subject surface segments located at different depths from said photosensitive surface and form an image on said photosensitive surface using chromatic aberration, each of the imaging lights having a wavelength identical to one of said different wavelengths and being different from each other, wherein said plurality of subject surface segments are separated from their adjacent subject surface segment at a generally equal distance.

10. (Currently Amended) A camera comprising: an objective lens where an imaging light enters; and image pickup means that receives the imaging light directed after being passed through said objective lens to form an image, the image pickup means having a photosensitive surface, the photosensitive surface having different kinds of elements arranged in an array that are for generating predetermined signals in response to imaging light in different wavelengths, said objective lens being adapted to receive imaging lights from each of a plurality of subject surface segments located at different depths from said photosensitive surface and form an image on said photosensitive surface using chromatic aberration, each of the imaging lights having a wavelength identical to one of said different wavelengths and being different from each other, wherein each subject surface segment of said plurality of subject surface segments are is

separated from their an adjacent subject surface segment at a distance not larger than the depth of field of said objective lens.

11. (Currently Amended) A camera comprising: an objective lens where an imaging light enters; and image pickup means that receives the imaging light directed after being passed through said objective lens to form an image, the image pickup means having a photosensitive surface, the photosensitive surface having different kinds of elements arranged in an array that are for generating predetermined signals in response to imaging light in different wavelengths, said objective lens being adapted to receive imaging lights from each of a plurality of subject surface segments located at different depths from said photosensitive surface and form an image on said photosensitive surface using chromatic aberration, each of the imaging lights having a wavelength identical to one of said different wavelengths and being different from each other, wherein said different kinds of elements are the following three kinds of elements: the element that is sensitive to the light in the red spectral region, the element that is sensitive to the light in the green spectral region, and the element that is sensitive to the light in the blue spectral region, said plurality of subject surface segments are three kinds of subject surface segments in which each of the light in the red spectral region therefrom, the light in the green spectral region therefrom, and the light in the blue spectral region therefrom is focused through said objective lens to form ~~from~~ an image on said photosensitive surface.

12. (Currently Amended) An image processor that is used in combination with a camera, the camera comprising: an objective lens where an imaging light enters; image pickup means having

a photosensitive surface that receives the imaging light directed after being passed through said objective lens to form an image, the photosensitive surface having different kinds of elements arranged in an array that are for generating predetermined signals in response to imaging light in different wavelengths; and output means that sends, to the outside, received said predetermined signals signal, said objective lens being adapted to receive imaging lights from each of a plurality of subject surface segments located at different depths from said photosensitive surface and form an image on said photosensitive surface using chromatic aberration, while said photosensitive surface is positioned at a fixed distance with respect to a sample that produces the imaging light stationary, each of the imaging lights having a wavelength identical to one of said different wavelengths and being different from each other, the image processor being adapted to provide the control to produce, on a predetermined display, an image according to said signal received from said output means,

the image processor comprising: means for receiving said predetermined signals signal; processing means for generating, according to received said predetermined signals signal, image data with which a plurality of images comprising a respective image corresponding to signals received from only one kind of element of each different kind of elements can be produced the same number of a plurality of images produced by the same kind of said elements can be produced on said display as the number of said elements; and means for sending, to the outside, generated said image data to said display means, wherein said processing means is adapted to generate, according to said signal generated by said different kinds of elements, said image data with which achromatic images can be produced on said display.

13. (Currently Amended) The image processor as claimed in Claim 12, wherein said processing means is adapted to generate said image data with which said plurality of images ~~generated by the same kind of said elements~~ can be produced as separate images on said display.

14. (Currently Amended) The image processor as claimed Claim 12, wherein said processing means is adapted to allow simultaneous production of all of said plurality of images ~~generated by the same kind of said elements~~ on said display.

15. (Currently Amended) The image processor as claimed in Claim 12, wherein said processing means is adapted to allow selective production of any of said plurality of images ~~generated by the same kind of said elements~~.

16. (Currently Amended) The image processor as claimed in Claim 12, wherein said processing means is adapted to allow production of an image on said display, the image being generated by overlapping said plurality of images ~~generated by the same kind of said elements~~.

17. (Currently Amended) The image processor as claimed in Claim 12, wherein said processing means is adapted to allow production of an image on said display, the image being generated by converting said plurality of images ~~generated by the same kind of said elements~~ and then overlapping the plurality of images ~~them~~.

18. (Original) The image processor as claimed in Claim 12, wherein said processing means is adapted to generate, according to said predetermined signals ~~signal~~ generated by said different kinds of elements, said image data with which images in colors of only the same hue can be produced on said display.

19. (Canceled)

20. (Currently Amended) An image data processing method to be carried out in an image processor having a computer, the image processor being used in combination with a camera, the camera comprising: an objective lens where an imaging light enters; image pickup means having a photosensitive surface that receives the imaging light directed after being passed through said objective lens to form an image, the photosensitive surface having different kinds elements arranged in an array that are for generating predetermined signals in response to imaging light in different wavelengths; and output means that sends, to the outside, received said predetermined signals ~~signal~~, said objective lens being adapted to receive imaging lights from each of a plurality of subject surface segments located at different depths from said photosensitive surface and form an image on said photosensitive surface using chromatic aberration, while said photosensitive surface is positioned at a fixed distance with respect to a sample that produces the imaging light stationary, each of the imaging lights having a wavelength identical to one of said different wavelengths and being different from each other, the image processor being adapted to provide the control to produce, on a predetermined display, an image according to said predetermined

signals signal received from said output means, said image data processing method comprising below steps carried out by said computer comprising:

a step of receiving said predetermined signals signal;

a step of generating, according to received said predetermined signals signal, image data with which a plurality of images comprising a respective image corresponding to signals received from only one kind of element of each different kind of elements can be produced the same number of a plurality of images produced by the same kind of said elements can be produced on said display as the number of said elements; and

a step of sending, to the outside, generated said image data to said display means, wherein said image processor generates, according to said signal generated by said different kinds of elements, said image data with which achromatic images can be produced on said display.

21. (Currently Amended) A computer-readable program used in combination with an image processor having a computer, the image processor being used in combination with a camera, the camera comprising: an objective lens where an imaging light enters; image pickup means having a photosensitive surface that receives the imaging light directed after being passed through said objective lens to form an image, the photosensitive surface having different kinds of elements arranged in an array that are for generating predetermined signals in response to imaging light in different wavelengths; and output means that sends, to the outside, received said predetermined signals signal, said objective lens being adapted to receive imaging lights from each of a plurality of subject surface segments located at different depths from said

photosensitive surface and form an image on said photosensitive surface using chromatic aberration, while said photosensitive surface is positioned at a fixed distance with respect to a sample that produces the imaging light stationary, each of the imaging lights having wavelength identical to one of said different wavelengths and being different from each other, the image processor being adapted to provide the control to produce, on a predetermined display, an image according to said signal received from said output means, the computer-readable program being for carrying out, by said computer, at least:

a processing of receiving said predetermined signals signal;

a processing of generating, according to received said predetermined signals signal, image data with which a plurality of images comprising a respective image corresponding to signals received from only one kind of element of each different kind of elements can be produced the same number of a plurality of images produced by the same kind of said elements can be produced on said display as the number of said elements; and

a processing of sending, to the outside, generated said image data to said display means wherein said image processor generates, according to said signal generated by said different kinds of elements, said image data with which achromatic images can be produced on said display.

22. (Canceled)